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## Humsienk 48V100AH-Bluetooth-NEW

# Humsienk 48V 100Ah LiFePO4 Wall-Mounted Battery User Manual

Model: 48V100AH-Bluetooth-NEW | Brand: Humsienk

## 1. PRODUCT OVERVIEW

The Humsienk 48V 100Ah LiFePO4 battery is a high-performance, wall-mounted energy storage solution designed for various applications including home backup, solar systems, and off-grid setups. It features advanced LiFePO4 cell technology, a robust Battery Management System (BMS), an intuitive LCD touchscreen, and Bluetooth connectivity for real-time monitoring.



Figure 1: Humsienk 48V 100Ah LiFePO4 Wall-Mounted Battery.

## Key Features:

- **Advanced LiFePO4 Cells:** Utilizes automotive-grade BYD A+ cells for superior stability, high energy density, and safety. Offers over 6000 deep cycles at 80% Depth of Discharge (DOD), providing a lifespan significantly longer than traditional lead-acid batteries.
- **High Capacity:** Each 48V 100Ah battery provides 5120Wh (5.12 kWh) of energy.
- **Flexible Parallel Operation:** Supports 1S16P expansion, allowing for a total system capacity of up to 81.9 kWh.
- **Smart Monitoring:** Equipped with a Bluetooth application for remote monitoring of battery voltage, current, and capacity. A dedicated LCD touchscreen provides real-time status and control.
- **Comprehensive Protection:** Features a 100A BMS with an integrated circuit breaker, offering protection against overcharge, over-discharge, overcurrent, and short circuits.
- **Wide Compatibility:** Compatible with major inverter brands via CAN/RS485/RS232 communication protocols.
- **Compact and Wall-Mounted Design:** Dimensions of 55.5 x 48.2 x 18.5 cm and a weight of 50.1 kg. Designed for easy wall installation, saving space.

## 2. SAFETY INFORMATION

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Read all safety instructions before installation and operation. Failure to follow these instructions may result in electric shock, fire, or serious injury.

### General Safety Precautions:

- Do not disassemble, modify, or attempt to repair the battery.
- Ensure proper ventilation around the battery to prevent overheating.
- Avoid short-circuiting the battery terminals.
- Keep the battery away from open flames, heat sources, and flammable materials.
- Use only approved chargers and connection cables.
- Wear appropriate personal protective equipment (PPE) such as insulated gloves and eye protection during installation and maintenance.
- Do not expose the battery to extreme temperatures outside its operating range (-4°F to 140°F / -20°C to 60°C).

### Battery Management System (BMS) Protection:

The integrated 100A BMS provides critical protection features to ensure safe operation and extend battery life. These include:

- Overcharge Protection
- Over-discharge Protection
- Overcurrent Protection
- Short-circuit Protection
- High/Low-temperature Protection



Figure 2: The 100A BMS with 125A circuit breaker provides dual protection for the battery.

### 3. SETUP AND INSTALLATION

The Humsienk 48V 100Ah battery is designed for straightforward wall-mounted installation. Ensure the installation location is dry, well-ventilated, and within the specified operating temperature range.

#### Package Contents:

- Humsienk 48V 100Ah LiFePO4 Battery
- Wall mounting brackets
- Fixing screws
- Power cables

#### Installation Steps:

1. **Choose Location:** Select a suitable wall location that can support the battery's weight (50.1 kg) and allows for proper air circulation.
2. **Mount Brackets:** Securely attach the wall mounting brackets to the chosen location using the provided

fixing screws. Ensure the brackets are level and firmly anchored.

3. **Mount Battery:** Carefully lift and hang the battery onto the installed wall brackets. Ensure it is seated correctly and securely.
4. **Connect Power Cables:** Connect the positive and negative power cables to the corresponding terminals on the battery. Ensure connections are tight and secure.
5. **Connect Communication Cables (Optional):** If integrating with an inverter or other system, connect the CAN/RS485/RS232 communication cables as required by your system's specifications.
6. **Activate Battery:** Follow the specific activation procedure for your system, which may involve turning on the integrated circuit breaker or pressing a power button.

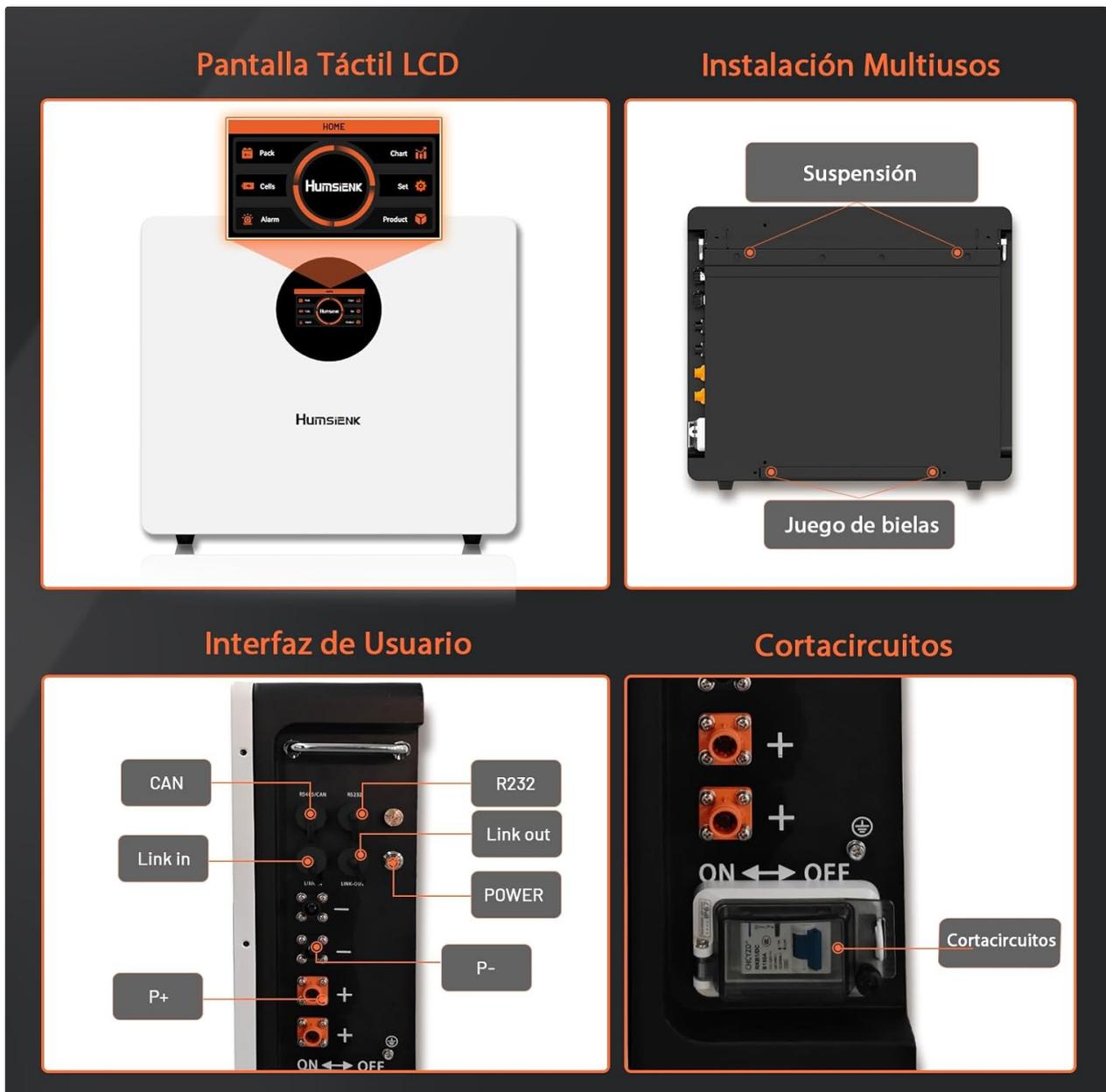


Figure 3: Details of the LCD touchscreen, multi-user installation options, user interface ports (CAN, Link In, Link Out, R232, Power), and circuit breaker.

# Instalación Fácil

The image illustrates the ease of installation for Humsienk batteries. On the left, a single white Humsienk 48V 100Ah battery unit is shown with a circular LCD touchscreen on its front panel. To its right, four black 12V 100Ah batteries are stacked together. The text '1 x 51.2V100AH' is displayed in orange above the single unit, while '4 x 12V100Ah' is shown in white above the stack of four. A list of benefits for the single unit is provided with checkmarks, and a list of drawbacks for the four-unit stack is provided with empty checkboxes.

**1 x 51.2V100AH**

- Menos espacio
- Costos reducidos
- Fácil cuidado

**4 x 12V100Ah**

- No más cables
- Nuevas pérdidas
- Mantenimiento diario

The single unit is labeled 'HUMSIENK' and features a circular LCD touchscreen. The stack of four units is labeled 'HUMSIENK 12V 100Ah 1280Wh BMS 100A LiFePO4' and includes various safety and certification icons.

Figure 4: Comparison illustrating the space-saving and simplified installation of a single 48V 100Ah unit compared to four 12V 100Ah batteries.

## 4. OPERATION

The Humsienk battery offers multiple ways to monitor and control its status.

### LCD Touchscreen:

The integrated LCD touchscreen provides real-time information about the battery's state of charge, voltage, current, temperature, and other parameters. Navigate through the menus by touching the screen to view detailed data and adjust settings if applicable.

### Bluetooth App Monitoring:

Download the Humsienk Bluetooth application on your smartphone to remotely monitor the battery. The app allows you to view critical battery data, including:

- State of Charge (SOC)
- Voltage

- Current (Charge/Discharge)
- Temperature
- Individual cell voltages

To connect via Bluetooth:

1. Ensure Bluetooth is enabled on your smartphone.
2. Open the HumsiENK app.
3. The app will scan for available batteries. Select your battery from the list and tap 'Connect'.
4. Once connected, you can view real-time data and historical records.

### Parallel Operation:

For increased capacity, up to 16 HumsiENK 48V 100Ah batteries can be connected in parallel (1S16P configuration). This allows for a maximum system capacity of 81.9 kWh. Ensure all batteries are of the same model and state of charge before connecting in parallel. Refer to the wiring diagram in the full manual for correct parallel connection procedures.



Figure 5: Example of two HumsiENK 48V batteries connected in parallel to achieve higher energy and load capacity.

## 5. MAINTENANCE

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Proper maintenance ensures the longevity and optimal performance of your Humsienk LiFePO4 battery.

### Charging:

- Use a LiFePO4 compatible charger with the correct voltage and current settings.
- Avoid overcharging or undercharging the battery. The BMS will provide protection, but using appropriate charging parameters is recommended.
- Charge the battery within its recommended temperature range.

### Storage:

- If storing the battery for an extended period, ensure it is charged to approximately 50-70% State of Charge (SOC).
- Store the battery in a cool, dry place, away from direct sunlight and extreme temperatures.
- Periodically check the battery's SOC during long-term storage and recharge if necessary.

### Cleaning:

- Keep the battery terminals clean and free from corrosion.
- Wipe the battery casing with a dry, soft cloth. Do not use harsh chemicals or abrasive cleaners.

## 6. TROUBLESHOOTING

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This section addresses common issues you might encounter with your Humsienk LiFePO4 battery. For more complex problems, contact customer support.

### Common Issues and Solutions:

- **Battery Not Charging:**
  - Check all cable connections for tightness and proper polarity.
  - Verify the charger is functioning correctly and is compatible with LiFePO4 batteries.
  - Ensure the battery's circuit breaker is in the 'ON' position.
  - Check the battery's temperature; charging may be inhibited if too cold or hot.
- **Battery Not Discharging (No Power Output):**
  - Check all load connections.
  - Verify the battery's circuit breaker is 'ON'.
  - Check the battery's State of Charge (SOC) via the LCD or Bluetooth app; it may be in low-voltage protection mode.
  - The BMS may have activated a protection feature (e.g., overcurrent, short-circuit). Disconnect the load, wait a few minutes, and try again.
- **Bluetooth Connection Issues:**
  - Ensure the battery is powered on.
  - Verify Bluetooth is enabled on your smartphone and the app has necessary permissions.
  - Move closer to the battery to improve signal strength.

- Restart the app and try connecting again.
- **LCD Screen Not Responding:**
  - Ensure the battery is powered on.
  - If the screen is frozen, try cycling the battery's power (if safe to do so) or contact support.

## 7. SPECIFICATIONS

Detailed technical specifications for the HumsiENK 48V 100Ah LiFePO4 battery.

Specification	Value
Brand	HumsiENK
Model	48V100AH-Bluetooth-NEW
Battery Type	LiFePO4 (Lithium Iron Phosphate)
Nominal Voltage	48 Volts
Capacity	100 Ampere-hour (Ah)
Energy	5120 Watt-hour (Wh)
BMS Current	100 Amperes (A)
Cycle Life	Up to 6000+ deep cycles (80% DOD)
Operating Temperature Range	-4°F to 140°F (-20°C to 60°C)
Dimensions (L x W x H)	55 x 18.5 x 48.5 cm (21.65 x 7.28 x 19.09 inches)
Weight	50.1 kg (110.45 lbs)
Communication Interfaces	CAN, RS485, RS232, Bluetooth
Recommended Use	Energy Storage, Home Backup, Off-Grid Systems, Solar Systems
Manufacturer Reference	HS48V100AH100NEW-ES-001

## 8. WARRANTY AND SUPPORT

HumsiENK provides a **5-year warranty** for this LiFePO4 battery, covering defects in materials and workmanship under normal use and service conditions.

For technical assistance, troubleshooting, or warranty claims, please contact HumsiENK customer support. Our professional technical support team is available to assist you with any product-related questions or issues.

Please retain your proof of purchase for warranty validation.

